



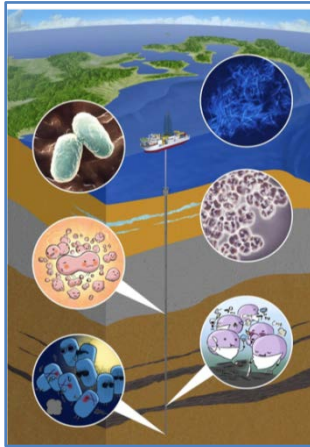
# Life in the Extreme

Studies from the bottom of the ocean

Saturday, May 4<sup>th</sup>, 2019, 8:30-4:15

The 43<sup>rd</sup> Annual Meeting of MME

Quissett Campus at the Woods Hole Oceanographic Institution



## SCHEDULE

8:30 am	Registration in Clark Bldg., 5 <sup>th</sup> Floor, Coffee and light breakfast available
9:00 am	Welcome and Opening Remarks
9:15 am	Keynote 1
10:15 am	Exhibits/Break
10:45 am	Keynote 2
11:45 pm	Lunch and Annual Meeting
1:00 pm	Workshops - Session 1
1:55 pm	Workshops - Session 2
2:50 pm	Tours
4:15 pm	Reception at Sea Education Assoc.

**CHECK WEBSITE FOR WORKSHOP TITLES**

[www.ma-marine-ed.org](http://www.ma-marine-ed.org)

## REGISTRATION

Early Bird, Regular and Student registrations include the 2018-2019 MME membership, lunch, social reception, and all conference activities. Check the website for descriptions of workshops.

Early Bird Registration: \$90 (\$60 conference fee + \$30 MME membership) by April 19, 2019

Regular Registration: \$95 after April 19, 2019.

Walk-In Reg. (May 4): \$100 (lunch not guaranteed)

Full Time Student: \$45 early bird (\$30 conference fee + \$15 student membership)/\$50 regular/\$55 walk-in

Life Member: \$55

Conference questions? Contact: Don Pinkerton,  
[dpinkerton@rpsk12.org](mailto:dpinkerton@rpsk12.org)

[Click here to Register](#)

## KEYNOTE SPEAKERS

*Life in the Extreme: Biodiversity and Disturbance at Deep-Sea Hydrothermal Vents*

Dr. Timothy Shank, WHOI Associate Scientist with Tenure, Biology, Molecular Ecology and Evolution

*Life in Rocks: What Does Life Look Like Miles Beneath the Ocean Floor?*

Dr. Elizabeth Trembath-Reichert, WHOI Postdoctoral Fellow, Marine Chemistry & Geochemistry



**WORKSHOPS & TOURS**  
**(choose one from each session to attend)**

**SESSION 1 WORKSHOPS 1:00 P.M.**

**Reef Surveyor for a Day! Rm 507 (Capacity 92)**

**Grades 3-5 Disciplines: Biology, Ecology, Marine Science**

**Workshop Leaders: Cynthia Becker, Laura Weber, & Kalina Grabb, Joint Program Graduate Students, WHOI**

**Description:** A hands-on workshop to understand that coral reefs are diverse and important marine ecosystems that are built by benthic organisms like corals, sponges, and macroalgae. Participants will also learn a scientific survey technique that is used to study coral reefs and then apply this knowledge in an activity. They will quantify reef organisms and compare the abundance of reef organisms across two reef systems. This lesson can be scaled up or down for different grade levels.

**Bringing the Ocean to Eye Level Rm 271 (Capacity 30)**

**Grades K-12 Disciplines: Women in Science, Diving, Climate Change, Marine Science**

**Workshop Leader: Breezy Grenier, Ocean Scientist & Educator**

**Description:** A hands-on workshop related to the research findings from the all-female 2014-2018 Sedna Epic Expedition, a underwater project involving the study of climate change via snorkeling and diving in Canada and Greenland's High Arctic. Team Sedna delivers its innovative ocean outreach program to Inuit, Inuvialuit girls, and young women in the Arctic to bring the ocean to eye level via mobile touch aquariums, underwater robot-building camps, and snorkel safaris.

**Data Jamming-Making Data Sing So Everyone Can Dance & Tell Stories Rm 201 (Capacity 40)**

**Grades 6-12 Disciplines: Biology, Ecology, Oceanography, Data Analysis**

**Workshop Leader: Annette Brickley, STEMming the Gaps Consulting, WHOI NES-LTER Education & Outreach**

**Description:** The skills of understanding, interpreting, and presenting data are essential in a world where our ability to collect data outpaces our ability to make it understandable. The Northeast US Shelf LTER at WHOI is offering the first ocean Data Jam which emphasizes creativity in presenting data. Your challenge is to graph, analyze, and creatively interpret locally relevant data sets for public understanding. Your goal is to present a compelling data-based story or message that accurately describes a finding from local scientists. The workshop will look at all of the possibilities!

**Using Art to Spark Conversation about Climate Change Rm 237 (Capacity 15)**

**Grades 6-12 Disciplines: Climate Change, Art**

**Workshop Leader: Ren Bettencourt, Project Coordinator, Bow Seat Ocean Awareness Programs**

**Description:** Art is a powerful way to engage students in learning, to help youth connect with nature, and to enable people of all ages to process their thoughts and feelings around difficult topics--such as climate change. In this interactive workshop, we will model strategies to spark conversation and engage teens in the topic of climate change using student artwork from Bow Seat's Ocean Awareness Contest. Participants will also take part in an art making activity, which is designed to help students process both the scientific content relating to climate change and the emotional implications of that (sometimes ominous) knowledge.

## SESSION 2 WORKSHOPS 1:55 P.M.

### **Follow That Seabird Rm 507 (Capacity 92)**

**Grades 5-12 Disciplines: Biology, Ecology, Marine Science, Data Analysis**

**Workshop Leaders: Anne Smrcina & Peter Hong, NOAA Stellwagen Bank National Marine Sanctuary**

**Description:** Like canaries in coal mines, shearwaters may prove to be harbingers of Gulf of Maine health as well as indicators of the availability of sand lance and other prey. Satellite tags allow researchers to follow the birds' movements here in their feeding grounds and later along their long-distance migration. In this workshop, we will cover recent research on seabird health, plot tracks of bird movements, and see how ocean observing data and seafloor bathymetry can be used to form theories about the birds' locations.

### **Fish Forensics: Who's That Fish? Rm 201 (Capacity 40)**

**Grades 6-12 Disciplines: Biology, Genetics, Marine Science**

**Workshop Leader: Rosie Falco, Research Scientist, Ocean Genome Legacy Center, Marine Science Center, Northeastern University**

**Description:** Put your fish identifications skills to the test! In this workshop, we will explore two methods used to identify marine species: morphology and DNA barcoding. Students will learn to use a dichotomous key to identify pictures of mystery fish and then confirm their identifications through simulated DNA barcoding exercises. We will conclude the workshop with a discussion about the possible consequences of fish misidentification in home, commercial, and scientific settings.

### **Whales, Sea Turtles, and Salmon, Oh my! Rm 271 (Capacity 30)**

**Grades K-6 Disciplines: Biology, Marine Science, Data Analysis**

**Workshop Leader: Grace Simpkins, Education Specialist, WHOI Woods Hole Sea Grant**

**Description:** The Coasts, Oceans, and Stewardship (COAST) Program is a collaboration between Woods Hole Sea Grant and the NOAA Northeast Fisheries Science Center with lessons designed for K-8 students. Come try out lessons ranging from analyzing aerial survey data to identify North Atlantic right whales to working with Atlantic salmon telemetry data from Maine. Get an overview of what materials are available for you to use in your classroom. Most of lessons presented are focused on protected species.

### **Scientific "Cruise" on Vineyard Sound Meet in lobby outside Rm 507\***

**Grades 6-12 Disciplines: Marine Biology, Organismal Diversity, Field Biology**

**Workshop Leader: Rob Reynolds, Zephyr Education Foundation, Woods Hole**

**Description:** We will go out on the Sound and do hands-on oceanographic and marine biological activities including dredging benthic invertebrates, towing a benthic camera, deploying and recovering an instrumented mooring, and doing a plankton tow. **\*This field trip/session leaves at 1:55 and will return around 4:00 p.m. A donation of \$20 is suggested (please pay the workshop leader). Maximum of 20 attendees.**

## **TOURS 2:50 P.M. All tours will meet and depart from Clark 507**

- A Behind the Scenes Tour at the NOAA Woods Hole Science Aquarium. Maximum 15 attendees.
- Tour of the Woods Hole Coast Guard Station - Maximum 30 attendees. Carpooling is encouraged.
- Tour of the WHOI Core Repository - Maximum 15 attendees.

***Please join us: 4:15 Social Reception, Sea Education Association (SEA), 171 Woods Hole Rd***